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# (12) United States Patent

Mueller et al.

(54) ADJUSTABLE STRIDE ELLIPTICAL MOTION EXERCISE MACHINE WITH LARGE STRIDE VARIABILITY AND FAST ADJUSTMENT

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## (57) ABSTRACT

Elliptical exercise machines with a footskate on a reciprocating rail that provides for the ability to alter the horizontal stride of the user utilizing the machine, without significantly altering their vertical stride height on the machine. This is generally performed by altering the angle through which any point on the rail can, and does, move. Such adjustment may be performed by having the rail attached to a swing arm, where the arc of rotation of the swing arm relative to the frame is altered.

## 19 Claims, 12 Drawing Sheets

